

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of September 1, 2009 is respectfully requested.

By this Amendment, claims 5 and 6 have been cancelled, and claims 7, 9, 10 and 12 have been amended. Thus, claims 7-12 are currently pending in the application. No new matter has been added by these amendments.

On page 2 of the Office Action, the Examiner rejected claim 5 under 35 U.S.C. § 102(b) as being anticipated by Lott (US 1,426,578). Further, on pages 3-4 of the Office Action, the Examiner rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Weidinger (US 6,213,648) in view of JP 2002-276672. However, as indicated above, claims 5 and 6 have been cancelled. Accordingly, it is respectfully submitted that the rejections of claims 5 and 6 are rendered moot.

On pages 4-5 of the Office Action, the Examiner rejected claims 7-9 under 35 U.S.C. § 103(a) as being unpatentable over Weidinger in view of JP 2002-276672 (hereinafter JP '672), and further in view of Kinoshita (US 5,964,536). Further, on pages 6-7 of the Office Action, the Examiner rejected claims 10-12 under 35 U.S.C. § 103(a) as being unpatentable over Weidinger in view of JP '672, and further in view of Kinoshita. For the reasons discussed below, it is respectfully submitted that the present claims are clearly patentable over the prior art of record.

Amended independent claim 7 recites a tapered roller bearing comprising an inner ring, an outer ring, multiple tapered rollers rollably disposed between the inner and outer rings, and a cage for holding the tapered rollers at predetermined circumferential intervals, and that a roller coefficient γ thereof is larger than 0.94. Further, claim 7 recites that the cage includes pockets for holding the tapered rollers, respectively, and that a window angle of each of the pockets is in a range of 55° to 80°. In addition, claim 7 recites that the cage includes pole sections extending between adjacent ones of the pockets, respectively, with *each of the pole sections including a protruding section having a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring.*

Amended independent claim 10 recites a tapered roller bearing comprising an inner ring, an outer ring, multiple tapered rollers rollably disposed between the inner and outer rings, and a cage for holding the tapered rollers at predetermined circumferential intervals, and that a roller coefficient γ thereof is larger than 0.94. Further, claim 10 recites that the cage includes pockets for holding the tapered rollers, respectively, and that the cage includes pole sections extending

between adjacent ones of the pockets, respectively, with *each of the pole sections including a protruding section having a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring.*

Weidinger discloses a cage for roller bearings which, as shown in Fig. 2, includes pockets 20 for receiving tapered rolls 7, and a plurality of circumferentially spaced apart ridges 11 having an inner ridge part 9 and an outer ridge part 15. However, as noted by the Examiner on pages 3 and 4 of the Office Action, Weidinger does not disclose that a roller coefficient γ thereof is larger than 0.94, or that *each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring*, as required by independent claims 7 and 10. Further, as Weidinger does not disclose that each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring, Weidinger also does not disclose that each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring *for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring*, as required by independent claims 7 and 10.

On page 3 of the Office Action, the Examiner cites JP '672 as disclosing a roller bearing for the purpose of improving the load capacity of the bearing, and concludes that it would have been obvious to one of ordinary skill in the art to modify Weidinger so as to have a roller coefficient γ larger than 0.94 for the purpose of improving the load capacity of the bearing. However, it is noted that, like Weidinger, JP '672 also does not disclose that *each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring*, as required by independent claims 7 and 10.

On pages 4-5 of the Office Action, the Examiner cites Kinoshita as disclosing a bearing in which pole sections 46 include protruding sections 50 having a convex shape for the purpose of eliminating misfits of the cage, and concludes that it would have been obvious to modify the device of Weidinger such that the pole sections include a protruding section having a convex shape protruding toward the outer ring for the purpose of eliminating misfits of the cage.

In this regard, it is noted that Kinoshita discloses a bearing 14 (including a bushing 24) which is press-fitted to the inner surface of a housing 10 and is not able to rotate relative to the housing 10 (see column 3, lines 1-21; and column 5, lines 63-67). Kinoshita also discloses that the outer wall 42 of the bushing 24 includes outer protrudent portions 50 aligned with the window-like slots 46, so that when the bushing 24 is press-fitted in the housing 10, the outer wall

42 is flexibly deformable and moves radially inward due to the presence of the protrudent portions 50 and the window-like slots 46. However, Kinoshita does not disclose or suggest that the protrudent portions 50 have a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring, as required by independent claims 7 and 10.

Further, as indicated above, none of the Weidinger, JP '672 and Kinoshita references discloses or suggests that each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring, as required by independent claims 7 and 10. Accordingly, it is respectfully submitted that the combination of the Weidinger, JP '672 and Kinoshita references does not disclose or suggest that each of the pole sections includes a protruding section having a convex shape protruding toward the outer ring for forming a wedge-shaped oil film between the protruding section and a raceway surface of the outer ring, as required by independent claims 7 and 10.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claims 7 and 10 is not disclosed or suggested by the Weidinger reference, the JP '672 reference and the Kinoshita reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Weidinger reference in view of the JP '672 reference and the Kinoshita reference in such a manner as to result in or otherwise render obvious the present invention of independent claims 7 and 10.

Therefore, it is respectfully submitted that independent claims 7 and 10, as well as claims 8, 9, 11 and 12 which depend therefrom, are clearly allowable over the prior art of record.

On pages 7-8 of the Office Action, the Examiner provisionally rejected claims 5 and 12 under 35 U.S.C. § 101 as claiming the same invention as that of claims 1 and 3 of copending Application No. 11/212,908, and provisionally rejected claims 5, 6, 9 and 12 under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-5 of copending Application No. 11/578,327, and as claiming the same invention as that of claims 1-3 and 5 of copending Application No. 11/139,978.

As indicated above, claims 5 and 6 of the present application have been cancelled, and therefore it is respectfully submitted that the double patenting rejections are rendered moot with

respect to claims 5 and 6. Further, it is noted that claims 9 and 12 depend from independent claims 7 and 10, respectively. In this regard, it is noted that none of the claims of Application Nos. 11/212,908, 11/578,327 or 11/139,978 recite a cage which includes pole sections extending between adjacent ones of said pockets, respectively, with each of said pole sections including a protruding section having a convex shape protruding toward said outer ring for forming a wedge-shaped oil film between said protruding section and a raceway surface of said outer ring, as required by independent claims 7 and 10 (and thus as also required by dependent claims 9 and 12).

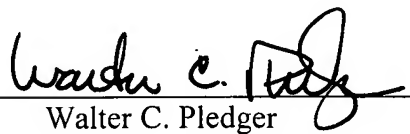
Due to these differences between claims 9 and 12 of the present application and the claims of the identified copending applications, it is respectfully submitted that claims 9 and 12 do not claim the same inventions of any of the claims of Application Nos. 11/212,908, 11/578,327 or 11/139,978, and therefore it is respectfully submitted that the Examiner's double patenting rejections are not applicable to the claims of the present application.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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